

NOTES ON THE NATURAL HISTORY OF FORT MACON, N. C., AND VICINITY. (No. 4.)

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When the present series of papers was projected, it was intended that they should give a full account of the zoology of the locality, as studied by the writers during their successive residence at Fort Macon. Dr. Coues was Post-Surgeon at the Fort during 1869 and 1870, being succeeded in the winter of 1870-71 by Dr. Yarrow, who took up the work immediately and continued it until 1872.

Dr. Coues has already published two papers in these Proceedings (1871, pp. 12-49, and pp. 120-148), one on the Mammals, Birds, and Reptiles, the other on various Invertebrates, chiefly Mollusks. More recently, Dr. Yarrow has published (1877, pp. 203-218) a third paper, on the Fishes, giving the joint results of our respective collections—though it should be added that the observations are entirely those made by Dr. Yarrow, he having been furnished by Dr. Coues with simply a list of the species collected by the latter, as identified by Mr. F. W. Putnam, of Salem.

The present paper, No. 4 of the series, supplies many omissions in the first article, on the Mammals, Birds, and Reptiles—more particularly the latter. The series of papers may be completed by another communication, supplementing Dr. Coues's article on the Invertebrates (No. 2) with the results of Dr. Yarrow's more extended observations on several classes of the lower animals.

The writers are indebted to Prof. E. D. Cope, for identification of some of the Reptilia and Batrachia given in the present article.

I. MAMMALS.

Ursus americanus, Pall.
Black Bear.

Common on the mainland near Fort Macon; and is also found abundantly in a large marshy piece of ground not far from Croatan, a station on the North Carolina Railroad. Numbers are taken during the fall and spring in large iron spring traps, their meat and fur finding a ready market at New Berne, N. C. Some skins seen show small patches of light grizzled fur resembling somewhat that occasionally seen in specimens of *U. americanus* from the Rocky Mountains.

Delphinus globiceps, Cuvier.

Black-fish. Round-head Grampus.

But a single specimen observed, this having been taken at a porpoise-fishing on Shackleford banks, six miles from Fort Macon. The fishermen stated that it was rarely seen or captured.

Vespertilio (Vesperus) fuscus, P. de Beav.

Brown Bat.

Does not occur abundantly, a few only being seen near wooded portions of Bogue banks.

Sciuropterus volucella (Pall.), Geoff.

Flying Squirrel.

This species is quite common in the woods in the southern extremity of Bogue banks, and is also found in similar localities on the mainland.

Tamias striatus (L.), Bd.

Chipmunk.

Very common on islands and mainland.

Mephitis mephitica (Shaw), Bd.

Common Skunk.

Not abundant on the islands, but extremely common on the adjoining mainland. No case heard of in this locality regarding the rabies which is occasioned by the bite of its western congener.

II. BIRDS.

Ampelis cedrorum (V.), Bd.

Cedarbird.

Abundant in wooded portions of the islands, more so on mainland.

Hylotomus pileatus (L.), Bd.

Pileated Woodpecker. Woodcock.

Common in woods of islands and mainland; several specimens secured.

Campephilus principalis (L.), Gray.

Ivory-billed Woodpecker.

Information was received from an apparently respectable source of the occurrence of this species, whose appearance was described with tolerable exactness, but the statement is given for what it may be worth, no specimen having been seen.

Melanerpes erythrocephalus (L.), Sw.

Red-headed Woodpecker.

Quite common in woods, especially at Harker's Island, eight miles northeast from Fort Macon. This island is also celebrated for the numbers of mocking birds found there.

Antrostomus vociferus (Wils.), Bp.

Whippoorwill.

Occasional; but few seen.

Coccygus americanus (L.), Bp.

Yellow-billed Cuckoo.

Occasional.

Cygnus americanus, Sharpl.

American Swan.

A single specimen was seen by Dr. Yarrow, Dec. 18, 1871, near Harker's Island, but the people of the vicinity state, the species is not uncommon. This individual was noticed swimming in the midst of an enormous "raft" of red-head ducks (*Fuligula ferina americana*).

Fuligula vallisneria (Wils.), Steph.

Canvas-back Duck.

This species has been observed but once, four individuals having been noticed near Harker's Island, but we are informed it is quite common in the vicinity of Cape Lookout, fifteen miles from Fort Macon. The flesh, according to our informant, has not the richness of flavor which characterizes the Canvas-back of the Chesapeake.

Oedemia fusca (L.), Sw.

Velvet Scoter.

Occasional, few having been observed.

Mergus cucullatus, L.

Hooded Merganser.

Abundant in Bogue and Cove Sounds.

Mergulus alle (L.), V.

Sea Dove.

The occurrence of this species so far south is interesting. It is occasionally found on the beach after severe storms. The first specimen observed was secured in December, 1871, and others were subsequently taken. A number of the older residents of the

locality, to whom the specimens were shown, stated that they had never seen or heard of such a bird previously.

III. REPTILES.

TESTUDINATA.

Thalassochelys caouana, Linn.

Loggerhead Turtle.

Extremely numerous; numbers are taken in peculiar nets set in Cove Sound.

Aspidonectes ferox, Schw.

Soft-shelled Snapper.

Tolerably common in fresh-water streams of mainland.

Chelydra serpentina, Linn.

Snapping Turtle.

Common in muddy creeks of mainland.

Cistudo clausa (Gmelin), Cope.

Box Turtle.

Common in woods of islands and mainland.

Although a number of other species of Testudinata were observed, none were collected or identified.

SAURIA.

Alligator mississippiensis, Gray.

Alligator.

In a former paper, by Dr. Coues, this reptile is stated "to be of common and regular occurrence in the adjoining swamps of the mainland," but since the publication of this fact, the species has been discovered to be quite common in the fresh-water ponds of the wooded portion of Bogue banks, within six or seven miles of Fort Macon. A number of these ponds are to be found, and in them numbers of alligators, for which reason the residents of the island fear to bathe in their waters. In the latter part of December, 1871, Dr. Yarrow procured a full grown female, eight feet long, with six or eight of her young.

Anolis principalis (Linn.), Holbr.

Green Lizard. Scorpion. Chameleon.

This species abounds near Fort Macon and upon the mainland, frequenting generally the wooded portions, and may readily be caught and partially tamed, Dr. Yarrow having been able to keep

fifteen individuals over eight months in a common box, the bottom and sides being lined with green sods, the top covered with a pane of glass. These little reptiles became domesticated to such an extent as to feed from the hand when flies or ants were offered, and would also take a drop of water in the same manner. Unfortunately a scarcity of flies and ants necessitated a diet of grasshoppers, which produced diarrhœa, and all the specimens perished from this cause.

The natives of the "banks" have a great dread of these harmless and beautiful creatures, calling them "scorpions," and it requires considerable persuasion to induce them to touch one.

Their habits are somewhat peculiar, and were observed during their captivity with great care. In the act of copulation the male mounts the back of the female and entwines his tail with hers, and then seizes hold of the skin at the back of her neck; in this position they will remain for hours, apparently asleep, and in awakening resume the procreative act. During the day they are of a vivid green color, but as night or darkness approaches, they lose the bright green color, which becomes a rusty-brown, this change taking place gradually in spots and patches. This loss of bright color is also produced by cloudy weather. This species fights fiercely with *Cnemidophorus 6-lineatus*, and invariably conquers even with opponents of twice their size. Under the influence of anger the under part of the neck is puffed out, and the green color is then extremely bright. They shed their skins frequently during confinement, and cease taking food during this period, but, unlike the serpent, while undergoing this process, their eyesight is not affected. In one individual, who had suffered the loss of a portion of his tail—a full inch and a half—it was replaced by new growth within six months.

Oligosoma laterale, Say.

Ground Lizard.

Common, both on island and mainland. Generally appears towards evening.

Eumeces fasciatus, Linn.

Blue-tailed Lizard.

Occasionally met with in wooded portions of Bogue banks.

OPHIDIA.

Candisona miliaria, Linn.

Spotted Rattler. Ground Rattlesnake.

A few individuals of this species are said to have been seen on Bogue banks, none, however, observed or secured by the writers, but they are quite common on Shackleford banks, a few miles from Fort Macon. It has also been taken on the mainland. It is a fact worthy of remark, that, while on Bogue banks, rattlesnakes and moccasins are extremely abundant, this is the only venomous species found on the neighboring island of Shackleford.

Ancistroden piscivorus, Lac.

Water Moccasin.

Very numerous in woods of Bogue banks and on the mainland near wet and marshy places. Several specimens of enormous size secured. They are deemed so formidable by the residents, that, during the warm months of the year, no inducement will cause a visit to certain localities where these reptiles "use." In this connection it may be mentioned that Dr. Yarrow was informed by several individuals, that both moccasins and rattlesnakes had been seen a number of times swimming from the mainland to Bogue Island.

Ophibolus getulus sayi, Holbrook.

King Snake. Corn Snake. Thunder Snake.

Very common on islands and on mainland. This serpent is called "king snake" by the residents, who state that it frequently destroys both rattlesnakes and moccasins, eating its victims after the conflict is over, and for this reason it is held in great esteem and carefully protected. The fight which takes place between *Crotalus* and *Ophibolus* has been seen by several persons, and was described as follows: So soon as the rattlesnake sees his enemy, he endeavors to escape, if possible, and failing to effect his retreat, instantly throws his body into coils. The king snake approaches swiftly, and moves around the rattlesnake in a circle, gradually drawing nearer and nearer, the rattlesnake following his motion with his head. This circular movement of his antagonist appears, finally, to disconcert him, for after a time it is noticed his movements are less energetic, and finally, in an unguarded moment, *Ophibolus* throws himself with lightning rapidity upon him and chokes him to death, pulls his body apart, and devours

him. In captivity they are very gentle, and it requires very severe provocation to induce one to bite. Several specimens which were kept in a large box could not be induced to eat either mice, frogs, or toads, but as several fine specimens of *Ophiosaurus ventralis* (Daud.) kept in the same box, soon disappeared, it was easy to account for the apparent want of appetite. In fact, a large male was found in the act of devouring one of the "glass snakes." It is believed that other species of *Ophiboli*, such as *O. doliatus* and *triangulus*, live upon the islands as well as the mainland, but none have been noticed.

Cyclophis vernalis, De Kay.

Green Snake.

This species is very common on the islands and mainland, and according to the writers' experience is, contrary to the generally accepted statement, extremely irritable in captivity. biting fiercely if disturbed.

Coluber quadrivittatus, Holbrook.

Chicken-snake.

Very numerous in woods of islands and mainland.

Coluber guttatus, Linn.

Spotted Racer.

Same remarks apply as to the preceding species.

Heterodon platyrhinus, Latr.

Sand Viper. Hog-nose Snake. Puff Adder. Blowing Adder.

Uncommon on islands, a single specimen only having been captured on Bogue banks, Nov. 1871. Thought to be poisonous by residents.

Dromicus flavilatus, Cope.

This new and interesting species was discovered by Dr. H. C. Yarrow, in the month of Nov. 1871, on Bogue banks some eight miles south of Fort Macon, near marshy ground; and a second individual was seen some months later at the same place, but was not captured, as it escaped into the water. The specimen was forwarded alive to Prof. E. D. Cope, who at once declared it new to science, and described it in the Proceedings of the Academy of Natural Sciences of Phila. for 1871, p. 223. At this time some doubts were expressed as to whether a second specimen would ever be secured, but the diagnosis of this eminent herpetologist has lately been confirmed by the discovery and capture of another

specimen by Mrs. A. D. Lungren, of Volusia, Florida, as recorded in *Am. Nat.*, Sept. 1877, p. 565.

IV. BATRACHIA.

Rana temporaria sylvatica (Linn.), Lec.

Wood Frog.

Uncommon, but few having been seen on islands; more frequently met with on mainland.

Hyla versicolor, Le Conte.

Tree Frog or Toad.

Very common on islands and mainland.

Scaphiopus holbrooki, Harlan.

Solitary Spade Foot.

A single specimen only seen in woods of Bogue banks, but it is doubtless found in the mainland. Its nocturnal habits may account for its apparent scarcity.

Plethoden cinereus erythronotus (Green), Cope.

Red-backed Salamander. Mud-puppy.

Common. Residents fear it, as they do most of the lizards and salamanders.

Amphiuma means, Linn.

Mud Snake. Congo-snake.

This species occurs, without doubt, but it has not been noticed by the writers.

Siren lacertina, Linn.

Has been occasionally observed by those engaged in digging ditches.